

In The Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application. Please amend the claims as follows.

Claims 1-25 cancelled.

26. (Currently Amended) A method for providing a quality of service-based packet switched network to effect Internet telephony and other forms of communication, comprising the steps of:

providing ~~[[a]]~~ an ingress and an egress multi-protocol convergence switch (MPCS) for enabling an endpoint to connect to any endpoint within said packet switched network through the Internet using;

~~[[a]]~~ an ingress virtual circuit (VC) from an originating endpoint to ~~[[an]]~~ the ingress MPCS;

a virtual private network (VPN) between two or more MPCSs;

~~[[a]]~~ an egress virtual circuit (VC) from ~~[[an]]~~ the egress MPCS to a destination endpoint, wherein;

said ingress MPCS and egress MPCS each straddle an edge network and a core network, said core network comprising said VPN that carries traffic from one edge network to another edge network, said edge networks comprising said VCs;

said ingress MPCS and egress MPCS are each configured to support VCs ~~are comprised of any protocol, including any of;~~ comprising at least the following protocols:

MPLS;

TCP/IP;

UDP/IP;

ATM AAL2; and

ATM AAL5~~[[;]]~~, and

said ingress MPCS and egress MPCS are each configure so
the VPN comprising of comprises one or more virtual trunks (VT), each VT
connecting ~~[[two]]~~ the ingress and egress MPCSs ~~[[;_wherein]]~~ and said VTs
~~[[are]]~~ can be any one or more of at least the following supported protocols:
~~comprised of any protocol, including any of;~~

MPLS;
TCP/IP;
UDP/IP;
ATM AAL2; and
ATM AAL5;

~~wherein~~ said VTs differ from each other VT on at least any of the
following characteristics:

quality of reserved bandwidth;
Quality of Service (QoS);
cost;
time and date of creation; and
duration of existence; and

~~wherein~~ ingress MPCS and egress MPCS are each configure so said
VPN exists independently of said ~~[[VC]]~~ VCs in any of the following ways;

in time where the existence of a VT does not depend on the
existence of any VC and vice versa~~[[;]]~~, wherein a VT can be created before any
VCs exist, a VT can be destroyed while VCs remain in existence and a VC can be
destroyed while all VTs remain in existence~~[[;]]~~, and

on protocols where any VT may be of a different protocol
than any VC~~[[;]]~~, and the overall VPN may support the same protocol as any VC;
and

connecting originating and destination endpoints by steps of:

when a telephone call is made, sending said call to a telephone's
associated ingress MPCS via a VC;

~~said ingress MPCS~~ determining in the ingress MPCS ~~[[on]]~~ which VT said call should be routed based on factors including any of:

- intended destination;
- required QoS;
- required bandwidth;
- cost of VT usage including any of cost of VT QoS and bandwidth; and
- type of VT and VC protocols;

sending said call through said VPN via a selected VT to a destination egress MPCS; and

~~said egress MPCS, in turn,~~ sending said call from the egress MPCS to a destination telephone through a VC associated with said destination telephone;

~~said MPCS straddling an edge network and a core network, said core network comprising said VPN that carries traffic from one edge network to another edge network, said edge network comprising of said VCs;~~

recognizing communications quality and deliver requirements for a class of services; and

choosing a form of transport for a call based on the class of service ~~[[:]]~~

~~wherein said classes of service comprise~~ by selecting one from at least any of the following protocols:

- MPLS,
- TCP/IP,
- UDP/IP,
- ATM,
- ATM AAL2, and
- ATM AAL5.

27. (currently amended) The method of Claim 26 said MPCS further ~~performing~~ comprising the steps of:

converting data from said edge network VC protocol to said core network VT protocol and vice versa if necessary, including any of:

converting data from TCP/UDP/IP to MPLS and vice versa;

converting data from TCP/UDP/IP to AAL2 and vice versa;

converting data from AAL5 to AAL2 and vice versa;

converting data from AAL5 to MPLS and vice versa;

converting data from AAL2 to MPLS and vice versa; and

switching data from an AAL2 channel on a virtual circuit(VC)/virtual path (VP) to a different AAL2 channel on a different VC/VP;

performing headerstripping on IP traffic; [[and]]

enabling preprovisioning of core network VTs, wherein VTs are set up in advance of, and independent of, any edge network VC and are selected by [[an]] the ingress or egress MPCS ~~or associated call agent~~ when needed for a call; and

enabling management of the core VPN independent of any edge network VC, wherein core network VTs comprising the core VPN can be created, modified and destroyed without regard for the existence and state of the edge network VCs.

28. (new) A method for providing a quality of service-based packet switched network to effect Internet telephony and other forms of communication, comprising:

receiving an outgoing telephone call at an ingress multi-protocol convergence switch (MPCS) via a first virtual circuit (VC), wherein the ingress MPCS is configured to be able to accept VCs using each of the following protocols:

MPLS;

TCP/IP;

UDP/IP;

ATM AAL2; and

ATM AAL5;

establishing a virtual private network (VPN) between the ingress MPCS and an egress MPCS, the VPN existing independently of the first VC and comprising one or more virtual trunks (VT), each VT connecting the ingress and egress MPCSs, the VTs being established by the ingress and egress MPCSs by selecting one or more protocols from at least the following supported protocols:

MPLS;

TCP/IP;

UDP/IP;

ATM AAL2; and

ATM AAL5, based upon at least any of the following

characteristics:

quality of reserved bandwidth;

Quality of Service (QoS);

cost;

time and date of creation; and

duration of existence;

selecting in the ingress MPCS which VT said telephone call should be routed on based on factors including any of:

intended destination;

required QoS;

required bandwidth;

cost of VT usage including any of cost of VT QoS and

bandwidth; and

type of VT and VC protocols;

sending said call through said VPN via the selected VT to the destination egress MPCS; and

sending said telephone call from the egress MPCS to a destination

telephone through a second VC associated with said destination telephone, wherein the egress MPCS is configured to be able to establish VCs using each of the following protocols:

- MPLS;
- TCP/IP;
- UDP/IP;
- ATM AAL2; and
- ATM AAL5.

29. (new) The method of Claim 28, said further comprising:

- converting data in said telephone call from TCP/UDP/IP to MPLS and vice versa;

- performing headerstripping on IP traffic;

- enabling preprovisioning of the VPN VTs, wherein VTs are set up in advance of, and independent of, either the first or second VCs, and are selected by the ingress or egress MPCS when needed for a call; and

- enabling management of the VPN independent of either the first or second VCs, wherein the VTs comprising the VPN can be created, modified and destroyed without regard for the existence and state of the first or second VCs.

30. (new) The method of Claim 28, said further comprising:

- converting data in said telephone call from TCP/UDP/IP to AAL2 and vice versa;

- performing headerstripping on IP traffic;

- enabling preprovisioning of the VPN VTs, wherein VTs are set up in advance of, and independent of, either the first or second VCs, and are selected by the ingress or egress MPCS when needed for a call; and

- enabling management of the VPN independent of either the first or second VCs, wherein the VTs comprising the VPN can be created, modified and

destroyed without regard for the existence and state of the first or second VCs.

31. (new) The method of Claim 28, said further comprising:

- converting data in said telephone call from AAL5 to AAL2 and vice versa;
- performing headerstripping on IP traffic;
- enabling preprovisioning of the VPN VTs, wherein VTs are set up in advance of, and independent of, either the first or second VCs, and are selected by the ingress or egress MPCS when needed for a call; and
- enabling management of the VPN independent of either the first or second VCs, wherein the VTs comprising the VPN can be created, modified and destroyed without regard for the existence and state of the first or second VCs.

32. (new) The method of Claim 28, said further comprising:

- converting data in said telephone call from AAL5 to MPLS and vice versa;
- performing headerstripping on IP traffic;
- enabling preprovisioning of the VPN VTs, wherein VTs are set up in advance of, and independent of, either the first or second VCs, and are selected by the ingress or egress MPCS when needed for a call; and
- enabling management of the VPN independent of either the first or second VCs, wherein the VTs comprising the VPN can be created, modified and destroyed without regard for the existence and state of the first or second VCs.

33. (new) The method of Claim 28, said further comprising:

- converting data in said telephone call from AAL2 to MPLS and vice versa;
- performing headerstripping on IP traffic;
- enabling preprovisioning of the VPN VTs, wherein VTs are set up in advance of, and independent of, either the first or second VCs, and are selected by the ingress or egress MPCS when needed for a call; and
- enabling management of the VPN independent of either the first or second

VCs, wherein the VTs comprising the VPN can be created, modified and destroyed without regard for the existence and state of the first or second VCs.

34. (new) The method of Claim 28, said further comprising:

- switching data from an AAL2 channel on a virtual circuit(VC)/virtual path (VP) to a different AAL2 channel on a different VC/VP;

- performing headerstripping on IP traffic;

- enabling preprovisioning of the VPN VTs, wherein VTs are set up in advance of, and independent of, either the first or second VCs, and are selected by the ingress or egress MPCS when needed for a call; and

- enabling management of the VPN independent of either the first or second VCs, wherein the VTs comprising the VPN can be created, modified and destroyed without regard for the existence and state of the first or second VCs.